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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,856	01/15/2004	Christopher G. Malone	200311275-1	8746

22879 7590 06/28/2005

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EXAMINER

PAPE, ZACHARY

ART UNIT PAPER NUMBER

2835

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/759,856

Applicant(s)

MALONE ET AL.

Examiner

Zachary M. Pape

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-10, 12-15 and 17-21 is/are rejected.
- 7) ☐ Claim(s) 4, 11, 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

The following office action is in response to the correspondence filed 5/9/2005.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5-6, 8, 10, 12-13, 15, 17-18, 20-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Elko et al. (US 4,894,749). With respect to claim 1, Elko et al teaches a system comprising: a rack cabinet (10) adapted to hold a plurality of stacked housing contained electronic devices (14); an air inlet (11) and exit (subsequent holes adjacent 10) coupled to mutually opposing sides of the cabinet; a plurality of slots (Fig 2 as occupied by 14, 15) contained within the cabinet and adapted to secure the stacked housing contained electronic devices; a slot filler (15) comprising: a blanking panel (32) capable of covering an entry opening of an occupied slot (Column 3, Lines 62-65); and a body (30) coupled to the blanking panel that emulates dimensions of a housing contained electronic device (Column 3, Lines 26-28) and has a thickness selected so that clearance between the slot filler and an adjacent housing contained electronic device leaves an air flow gap from the air inlet to exit that is sufficiently small to create an air flow resistance preventing air from re-circling toward

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the air inlet (As illustrated in Fig 2, the air flows from the fan (11) into the air flow gap, past the electronic devices, and out through the holes located on the other end of the housing).

With respect to claim 3, Elko et al. further teaches that the blanking panel (32) is a cosmetic plate that is used to cover open spaces in the cabinet and to facilitate controlled airflow (Column 3, Lines 29-35), and is constructed from sheet metal and/or plastic; and the body is constructed from sheet metal and/or plastic (Column 3, Lines 57-59; Fig 3 illustrates that the plate (32) and the body (30) are constructed as one piece and therefore the body and plate are both made of sheet metal (aluminum)).

With respect to claim 5, Elko et al. further teaches that the body shape is approximately a rectangular polyhedron (14 as illustrated in Fig 2).

With respect to claim 6, Elko et al. further teaches that the body shape is approximately a rigid rectangular plate (As illustrated in Fig 3).

With respect to claim 8 Elko et al teaches a system comprising: a rack cabinet (10) adapted to hold a plurality of stacked housing contained electronic devices (14); an air inlet (11) and exit (subsequent holes adjacent 10) coupled to mutually opposing sides of the cabinet; a plurality of slots (Fig 2 as occupied by 14, 15) contained within the cabinet and adapted to secure the stacked housing contained electronic devices; and a slot filler (15) comprising: a blanking panel (32) capable of covering an entry opening of an occupied slot (Column 3, Lines 62-65); and a body (30) coupled to the blanking panel that emulates dimensions of a housing contained electronic device (Column 3, Lines 26-28) and has a thickness selected so I that clearance between the

slot filler and an adjacent housing contained electronic device leaves an air flow gap from the air inlet to exit that is sufficiently small to create an air flow resistance preventing air from re-circling toward the air inlet (As illustrated in Fig 2, the air flows from the fan (11) into the air flow gap, past the electronic devices/fillers, and out through the holes located on the other end of the housing).

With respect to claim 10, Elko et al. further teaches that the blanking panel (32) is a cosmetic plate that is used to cover open spaces in the cabinet and to facilitate controlled airflow (Column 3, Lines 29-35) and is constructed from sheet metal and/or plastic; and the body is constructed from sheet metal and/or plastic (Column 3, Lines 57-59; Fig 3 illustrates that the plate (32) and the body (30) are constructed as one piece and therefore the body and plate are both made of sheet metal (aluminum)).

With respect to claim 12, Elko et al. further teaches that the body shape is approximately a rectangular polyhedron (14 as illustrated in Fig 2).

With respect to claim 13, Elko et al. further teaches that the body shape is approximately a rigid rectangular plate (As illustrated in Fig 3).

With respect to claim 15, Elko et al. teaches a method of controlling airflow in an electronic system comprising: encasing a plurality of housing contained electronic devices (14) in a housing having multiple slots for receiving the housing contained electronic devices arranged in a stack; directing a cooling air stream (Fig 2, 18) flow over the plurality of stacked housing contained electronic devices from an air inlet (11) to an exit (subsequent holes adjacent 10); inserting a slot filler (15) within any unoccupied slots between the plurality of stacked housing contained electronic devices

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and arranging the plurality of stacked housing contained electronic devices (14) and slot fillers (15) with a selected clearance between adjacent housing contained electronic devices and/or slot fillers leaving an air flow gap from the air inlet to exit that is sufficiently small to create an air flow resistance preventing air from re-circling toward the air inlet (As illustrated in Fig 2, the airflow is generated by the fan (11), flows into the clearance and over both the slot fillers (15) and electronic devices (14; as illustrated by the arrows), and exits the holes on the housing wall opposite the fan).

With respect to claim 17, Elko et al. further teaches receiving the cooling air stream flow into the housing (via fan 11) from an air inlet in a front portion of the housing; and venting warm air from the stacked electronic devices to an exit in a rear portion of the housing (subsequent holes adjacent 10, on the housing wall opposite the fan).

With respect to claim 18, Elko et al. further teaches covering the slot filler in an unoccupied slot with an ornamental covering (32 – Column 3, Lines 62-65).

With respect to claim 20, Elko et al. teaches a system comprising: a housing (10) with a plurality of slots (14, 16) regularly arranged in a stack for receiving multiple housing contained electronic devices (14), the housing having an air inlet (11) and an air exit (subsequent holes adjacent 10, on the housing wall opposite the fan) for passing cooling air through the housing contained electronic devices (As illustrated with arrows 18), at least one housing contained electronic device (14) inserted into at least one of the plurality of slots; and at least one slot filler (15) inserted into the plurality of slots, the slot fillers having dimensions that emulate dimensions of a housing contained electronic

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device (Column 3, Lines 26-28) the at least one housing contained electronic device and the slot filler having an arrangement when inserted into the slots so that clearance between the adjacent slot fillers and/or housing contained electronic device is an air flow gap that extends from the air inlet to the air exit that is sufficiently small to create an air flow resistance preventing air from re-circling toward the air inlet (As illustrated in Fig 2, the air flows from the fan (11) into the air flow gap, past the electronic devices/fillers, and out through the holes located on the other end of the housing).

With respect to claim 21, Elko et al. teaches a system for controlling airflow in an electronic system comprising: means for encasing a plurality of housing contained electronic devices (10), means within the encasing means for receiving the plurality of housing contained electronic devices arranged in a stack (13); means for directing a cooling air stream flow over the plurality of stacked housing contained electronic devices from an air inlet to an exit (11, Column 3, Lines 28-44); and means for filling any unoccupied receiving means, the receiving means, electronic devices, and filling means being arranged with a selected clearance between adjacent electronic devices and/or filling means leaving an air flow gap from the air inlet to exit that is sufficiently small to create an air flow resistance preventing air from re-circling toward the air inlet (As illustrated in Fig 2, the air flows from the fan (11) into the air flow gap, past the electronic devices/fillers, and out through the holes located on the other end of the housing).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elko et al. in view of Helgenberg et al. (US 6,601,932). With respect to claims 2 and 9, Elko et al. teaches the claimed invention as described in 1 above and further teaches that the cabinet has a frontal surface (Fig 2, surface facing reader) and columns (surrounding fan 11, and incorporating subsequent holes) on lateral ends of the plurality of slots, but fails to teach that the blanking panel attaches to the columns. Helgenberg et al. teaches the use of pins (17) to attach a filler plate (11) to a set of columns (6) on a cabinet. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have extended the blanking panel of Elko et al. to attach to both columns of the frontal surface. Extending the panel gives the user a larger area from which to grasp and remove the plate and body from the cabinet.

Claims 7, 14, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elko et al. in view of Feightner et al. (US 5,214,567). With respect to claim 7, Elko et al. teaches the limitations of claim 1 above, but fails to teach that the body has a telescoping body with length adjustment, a perforated break line, and a plurality of rigid rectangular plates with a sliding mechanism. Feightner et al. teaches the use of a body

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(26) having an adjustable length for extension into a cabinet at a controlled depth, the body consisting of a telescoping body (As illustrated in Fig 3; Column 3, Lines 4-12) with a joint enabling length adjustment (38), the body further has one perforated break line (Fig 2, along 38) weakening the body structure at selected depths into the cabinet, and the body including a plurality of rigid plates with a sliding mechanism enabling the plates to slide relative to one another (Column 3, Lines 4-12). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the telescoping body and its features with the slot filler of Feightner et al. to provide a means of making the slot filler of Elko et al. adjustable to various length so that the slot filler can be used in a computer system having various widths/lengths (Feightner; Column 3, Lines 9-11).

Allowable Subject Matter

3. Claims 4, 11, and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The allowability resides in the overall structure of the device as recited in dependent apparatus claims 4, 11, and 16, and at least in part because claims 4, 11, and 16 recite, "1U electronic devices". The art of Elko et al. teaches the use of electronic devices mounted in a housing, but fails to teach that the electronic devices are of 1U design as claimed by the applicant.

Therefore the aforementioned limitations, in combination with all remaining limitations of claims 1, 8, and 15 are believed to render said claims 4, 11, and 16 and all claims dependent therefrom patentable over the art of record.

Response to Arguments

4. Applicant's arguments filed 5/9/2005 have been fully considered but they are not persuasive.

With respect to applicants arguments regarding the art of Elko failing to teach housing-contained electronic devices, the examiner respectfully draws the applicants attention to Elko et al. Fig 2 where a housing (10) is disclosed and further illustrates a plurality of electronic devices (19, Column 4, Lines 7-9 discloses that 19 is a circuit board with electronic components mounted thereon).

With respect to applicants arguments regarding Elko's failure to disclose a section of body thickness to create an air flow resistance that prevents air from re-circulating, the examiner respectfully draws the applicants attention to Fig 2 where Elko et al. illustrates via lines and arrows the airflow pattern between BOTH the electrical cards (19) and the filler cards (15). As illustrated the air flows from the fan (11) and through the openings between the boards and or slot fillers, across the electrical devices (19) and/or slot fillers, where the air then exits at the holes located on the housing wall opposite the fan. Additional the examiner directs the applicant to Elko et al. column 1, line 64 – column 2, line 7 where Elko teaches that one of the advantages of the design is to allow for even airflow distribution clearly designed to reduce the

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amount of warm air re-circulation over the mounted electrical devices (19; Column 1, Lines 18-22).

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachary M. Pape whose telephone number is 571-272-2201. The examiner can normally be reached on Mon. - Thur. & every other Fri. (8:00am - 5:00pm).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached at 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ZMP

A handwritten signature in black ink, appearing to read 'A. Vortman', with a long horizontal line extending to the right.

ANATOLY VORTMAN
PRIMARY EXAMINER